ever-changing display of Star of David on a star field

```
1.
2.
3.
4. STAR GRAPHOIDS
5 CLEAR;BC=0;FC=235;RETURN;NT=0;&(10)=1
6 FOR A=1 TO 200;BOX RND(160)-80,RND(88)-44,1,1,1;NEXT A
7 FOR A=0 TO 180;&(10)=A; NEXT A
8 &(17)=50;&(18)=25;&(19)=100;&(16)=8;&(21)=240;&(22)=188;
 FOR A =1 TO 10;&(16)=10-A;&(23)=Ax5;NEXT A
9 &(21)=205;&(23)=0
10 B=RND(8);A=Bx2
15 &(16)=BxRND(10)x2
25 C=RND(3)
30 D=RND(4);IF D=1 C=3
32 E=RND(20);FOR F=1 TO E
40 A=A+Dx2;B=B+D
45 IF B > 20 GOTO 10
50 LINE-A,-B,4
60 LINE 0,(Bx2),C
70 LINE A,-B,C
80 LINE-A,-B,C
90 LINE 0,-(Bx2),4
100 LINE A,B,C
110 LINE-A,B,C
125 &(18)=Bx5;&(19)=Bx10-A;&(17)=-Bx10+(-A)
130 NEXT F
140 GOTO 10
```

```
1.
2.RAINBOW DISPLAY #1
3 &(9)=0;&(10)=213
4&(14)=255
5 CLEAR;A=20180;B=A;C=150
10 X=213;GOSUB C
20 X=5140;GOSUB C
30 X=5140;GOSUB C
40 X=5140;GOSUB C
50 X=5140;GOSUB C
80 X=-11398;GOSUB C
90 X=1039;GOSUB C
100 X=-11400;GOSUB C
110 X=-11776;GOSUB C
120 X=20182;GOSUB C
130 Call B
150 %(A)=X;A=A+2;RETURN
```

Lines 1&2 must be deleted before running. Start & stop tape to sync. middle of screen. (once run, program cannot be halted)

RAINBOW DISPLAY #2
BY LARRY SMITH R&L IND.

```
B=8438
C=20084
D=-6715
E=8693
F=20078
G=-14722
H=30472
I=2054
J=-11459
K=4107
L=9211
M=-14722
N=6  (192÷#of bars)
O=-16130
P=824
Q=30639
R=-11477
S=30479
T=-7695
U=-1087
V=-3127
W=20030
X=18413
Y=29246
Z=3539
BC=-13829
```

This mach. prog. is run in variable buffer space B→Z(+BC which is the following byte.) %(20130). Set NT to 0-Enter the variables & BC manaally-&(9)=20-:INPUT;CALL 20121--& you get 64 colors. To add the 11 01 10 00 boxes, (to get almost all 256)-halt & enter this-

```
10 FOR X=16684TO19998STEP20;FOR Y=0TO4;%(X+
Y)=255;NEXT Y;FOR Y=YTO9;%(X+Y)=170;NEXT Y
;FOR Y=YTO14;%(X+Y)=85;NEXT Y;FOR Y=YTO19;%
(X+Y)=0
20 NEXT Y;NEXT X;X=18413;Y=29246;Call 20121
```

Then-:INPUT;RUN(NT must be reset to 0 first) If you have a K:B. that plugs in light pen You can enter the above w/o line #'s while the program is running. (it has l.p. interup) Change to-"FOR X=16384..." &delete everithing after NEXT X...To print out variables to tape-:PRINT;FOR A=20080TO20128STEP 2;TV=A÷2-9974+RM;TV=61;PRINT #0,%(A);NEXTA;PRINT "BC=-13829

OPCODE FOR RAINBOW DISPLAY #1

```
Address       Opcode And                                   Swap      decimal " % "
location      mnemonic            Comments                 bytes      numbers

20180              D5 PUSH DE  Save basic pointer 00D5      213
                   00 NOP        Filler
20182              14 INC D    Line # inc.'s      1414      5140
                   14  "            ↓
20184              14  "                          1414      5140
                   14  "
20186              14  "                          1414      5140
                   14  "
20188              14  "                          1414      5140
                   14  "
20190              7A LD A,D  Load acc.line#      D37A      -11398
                   D3 OUT(<B2>),A Send line# to
20192              0F  (<B2>)port FH(line int.reg.)040F     1039
                   04 INC B Inc. color #
20194              78 LD A,B Load acc. w/color#   D378      -11400
                   D3 OUT(<B2>),A Send color to
20196              00 (<B2>)       port "0"       D200      -11776
                   D2 JP NC<B3>,<B2> Jump to"D"
20198              D6 <B2>             increments 4ED6      20182
                   4E  <B3> Address of jump
                            4ED6(20182)
```

&(14) in program sets light pen interrupt bits.&(10)helps timing. Also allows more colors to be seen. Z-80 inc's. simply overflow to 0 after 255.

METHOD OF RECORDING GRAPHICS ON TAPE

If you want to record a graphics picture,(or anything that's on the screen.),add this line to the program that produces it first.

```
                         N
IF, TR(1) NT=1;:PRINT;FOR A =16384 TO 19983;CX=-76;CY=40;TV=%(N);NEXT N
```

After adding this to your program, punch in; B=%(20050) Then PRINT B . The number you get will be used again when inputting the picture.

When a pattern is produced that you want to record, start your tape, and pull the trigger. Only the upper left most corner will be disturbed as it dumps to tape. Be sure you have enough tape, as it takes≈4 min. 37 sec. worth.

To input PX & prog. from tape, set up any colors etc. , first,then

CLEAR; :INPUT; FOR A = 16384 TO 19983; %(A)=KP; NEXT A; %(20050)="the number you got earlier for **B** " Then "GO" and start tape.

When the cursor appears in upper left, the dump is completed. HINT: Put your color #'s and "**B**"on a tag on your tape cassete with the picture on it , so you dont forget it. (Without %(20050) the computer doesn't know the last byte in your program , and you won't be able to change lines in it later.)

Both the record, and input procedure must be error free to get program intact.

16384-19983 "Graphics Program Area"